

Activity Title: Visiting the NOAA Ship Rainier to learn about ocean-related careers.

Subject (Focus/Topic): The purpose of this lesson is to give students an understanding of potential ocean-related careers that they could pursue, and to see people in the local community currently working within these careers.

Grade Level: This lesson is meant for seventh and eighth grade students.

Average Learning Time: This lesson will take one fifty-minute class period and one day (or half-day) for a field trip to a local resource such as the *NOAA Ship Rainier*.

Lesson Summary (Overview/Purpose): In this lesson, students will learn about ocean-related careers by interacting with local community members that are currently fulfilling those roles.

Overall Concept (Big Idea/Essential Question): Students will explore the possibilities that are open to them. Students will be introduced to various ocean-related careers, and have an opportunity to learn what it takes for them to achieve these future job positions.

Specific Concepts (Key Concepts):

1. Students will understand what types of ocean-related careers are available to them.
2. Students will understand how various people have come to work in ocean-related careers.
3. Students will understand the basic job description of several people working in ocean-related careers.
4. Students will understand what type of education is required in order to pursue various ocean-related careers.

Focus Questions (Specific Questions):

1. What ocean-related careers are available in our local community and beyond?
2. How have people in these careers gotten to where they are today?
3. What is the education required in order to work in the various ocean-related careers?
4. What is the job description for various ocean-related occupations?
5. What is the lifestyle like for people in these ocean-related careers?
6. What types of internships are available for students looking to enter one of these ocean-related careers?

Objective/Learning Goals: Students will be able to accurately describe the job title, education requirements, and basic duties for at least four additional ocean-related careers on their post-assessment questionnaire compared to their pre-assessment.

Background Information: Students will need to have a basic understanding of the local resource in which you intend to visit. For example, students in this lesson will be visiting the *NOAA Ship Rainier* that is home ported in their community of Newport, Oregon. It is important that students understand what is expected of them on this trip, any important safety issues that should be addressed, behavioral expectations, and a general overview of the work that is done on the *Rainier*.

Common Misconceptions/Preconceptions: Students are often limited in what they understand as ocean-related careers. Most students can list jobs such as fisherman, marine biologist, ship captain, or other commonly known ocean-related occupations, but very few students have heard of Hydrographic Senior Survey Technicians, Seaman Surveyors, 1st Assistant Engineers, or other job titles that may be available to them in the future.

Materials:

- Chaperones
- Accessibility to a local resource (or website) that would welcome a visit to teach about ocean-related careers

Technical Requirements:

- PowerPoint, computer, and projector

Teacher Preparation:

- Create a PowerPoint on the expectations for the field trip
- Prepare the pre- and post-assessment questionnaires
- Organize a field trip to a local resource or set-up various guest lecturers to come and talk to you students about ocean-related careers

Keywords:

1. National Oceanic and Atmospheric Administration (NOAA)
2. NOAA Corps
3. Engineer
4. Hydrographic Survey
5. Deck Crew

Pre-assessment Strategy/Anticipatory Set (Optional): Students will be given a questionnaire about occupations that can be found on the *NOAA Ship Rainier*. Students will put a check-mark next to any jobs that they are familiar with. They will also be asked to write a brief job description for those careers that they say they are familiar with.

Lesson Procedure:

- Day One:
 - Students complete pre-assessment questionnaire
 - Students compare answers with the classmates
 - The class will compare the various ocean-related careers that they could list
 - The teacher will present the PowerPoint on expectations for the field trip
 - Students will answer a Ticket-Out-the-Door listing two occupations that a partner or the class discussed that they had never heard about before
- Day Two (field trip):
 - CO Richard Brennan will present his background and his current job in the NOAA Corps for all students
 - NOAA officers will lead tours for the students around the *NOAA Ship Rainier* and answer student questions about the various jobs offered through NOAA
 - Students will complete the post-assessment questionnaire back at school

Assessment and Evaluation: Student understanding will be measured in the following ways:

- Pre-assessment:
 - Questionnaire on ocean-related careers
- Formative assessments:
 - Partner, small-group, and classroom discussions throughout the lesson/trip
 - Ticket-Out-the-Door question at the end of day one
- Summative assessments:
 - Questionnaire on ocean-related careers

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Creation date: December 12th, 2014

National Science Education Standards Addressed: N/A

Ocean Literacy Principles Addressed:

- The ocean is largely unexplored.
 - *“The ocean is the last and largest unexplored place on Earth—less than 5% of it has been explored. This is the great frontier for the next generation’s explorers and researchers, where they will find great opportunities for inquiry and investigation.”*
 - *“Ocean exploration is truly interdisciplinary. It requires close collaboration among biologists, chemists, climatologists, computer programmers, engineers, geologists, meteorologists, and physicists, and new ways of thinking.”*
- The ocean and humans are inextricably interconnected.
 - *“The ocean provides food, medicines, and mineral and energy resources. It supports jobs and national economies, serves as a highway for transportation of goods and people, and plays a role in national security.”*

State Science Standard(s) Addressed: N/A

Other National or State Standards Addressed (Optional) Additional Resources: (Oregon)

- Career-Related Learning Standards
 - *“Develop skills in identifying, evaluating, and using a variety of resources for exploring personal, educational, and career choices.”*
 - *“Identify local and regional educational, employment, and career options.”*